

DRILL HOLES

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BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new Traffic Control Signal with video detection, street lighting and interconnect at the intersection of MD 27 and Woodfield Road Extended in Montgomery County. MD 27 is assumed to run a north-south direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA four-phase, semi-actuated mode, with the MD 27 approaches running concurrently. An Exclusive/Permissive **lag** left turn phase shall be provided for the southbound approach of MD 27. Far-side sampling stations shall be provided on both legs of MD 27 at this intersection. The Woodfield Road approach shall also run concurrently.
- A full-traffic-actuated, eight-phase controller with one (1) four channel, rack mount loop detector amplifiers, video interface, L.A.U. and L.A.U. Panel and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.
- Disconnecting and splicing of interconnect cable shall be performed by Montgomery County Forces. The contractor shall run the interconnect cable into the base of each cabinet and properly tag the cable. Contact Mr. Kamal Hamud at (240) 777-8761 seventy-two hours in advance of intended work.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

EQUIPMENTS LIST

A. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

DESCRIPTION	QUANTITY
12", one-way, three-section (R,Y,G) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	5 EA
12", one-way, five-section (R,Y,YA,G,GA) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	2 EA
Eight-phase, full-traffic actuated, solid state digital controller with one 4-channel, rack mount loop detector amplifiers housed in a NEMA size "6" mounted cabinet	1 EA
Test pit excavation.	4 C.Y.
Furnish and install concrete for signal foundation.	11 C.Y.
Overhead mounted sheet aluminum sign consisting of:	49 S.F.
D3-2 "Woodfield RD (arrow)/(arrow)" Woodfield RD" dual faced sign, (variable x 18") mast arm mount	2 EA
D3-2 "Ridge RD 27100>" sign, (variable x 18") mast arm mounted.	1 EA
GUIDE SHIELD ASSEMBLY (36"x75") pole mounted. M3-3 "SOUTH"(30"x15") M1-5 "MD 27"(36"x36") M6-1 "left arrow"(30"x24")	1 EA
Ground mounted sheet aluminum signs to consist of: GUIDE SIGN (24"x51") M3-1 "NORTH"(24"x12") M1-5 "MD 27"(24"x24") M6-2 "left arrow"(21"x15")	8.5 S.F.
12" white heat applied permanent preformed thermoplastic pavement marking	270 L.F.
24" white heat applied permanent preformed thermoplastic pavement marking	60 L.F.
Saw cut for signal (loop detector).	150 L.F.
1" liquid tight flexible non-metallic conduit for detector sleeve.	15 L.F.

EQUIPMENTS LIST (cont.)

A. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

DESCRIPTION	QUANTITY
1" galvanized steel electrical conduit (detector wire sleeve)	20 L.F.
Furnish and install 2" schedule 80 rigid polyvinyl chloride - trench	30 L.F.
Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trench	195 L.F.
Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - trench	225 L.F.
4" polyvinyl chloride electrical conduit (Schedule 80) (2nd conduit within one slot or trench).	300 L.F.
Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - slotted	140 L.F.
Furnish and install electrical handhole.	7 EA
Furnish and install loop wire encased in flexible tubing (No. 14 AWG).	435 L.F.
Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).	95 L.F.
Furnish and install 7-conductor electrical cable (No. 14 A.W.G.).	740 L.F.
Furnish and install ground rod -3/4" x 10'.	7 EA
Furnish and install No. 6 AWG stranded bare copper ground wire.	310 L.F.
Furnish and install tray cable - 2 conductor (No. 12 AWG)	335 L.F.
Canoga 4-conductor electrical cable (No. 14 A.W.G.) (shielded).	490 L.F.
Furnish and install 250 watt HPS Luminaire with photocell.	2 EA
Furnish and install 15' lighting bracket arm for traffic signal structure.	2 EA
Furnish and install control and distribution equipment (120/240 V, 1 phase 3 wire system).	1 EA
Detectable warning surface	48 S.F.
Furnish and install 27' steel pole pole and 30' mast arm.	1 EA
Furnish and install 27' steel pole pole and twin (40'/60') arms.	1 EA
Video detector camera.	2 EA
Wood sign supports up to 4"x6".	16 L.F.
Video detection interface equipment: 1-4 cameras (To be installed by County Forces).	1 EA
Cable - 1 conductor, 250 KCMIL CU, USE 600V.	80 LF
Meter Pedestal	1 EA

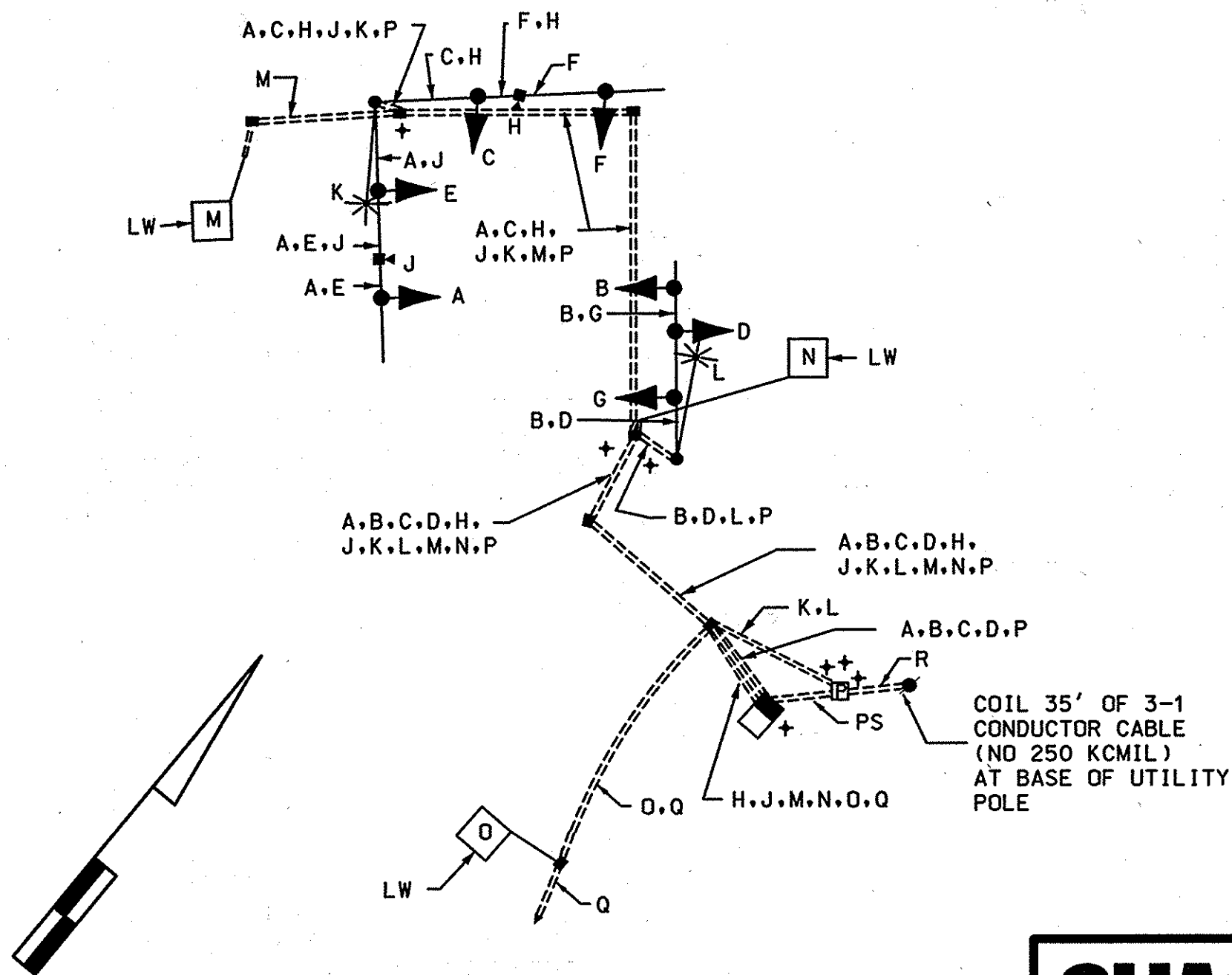
PHASE CHART

1	2	3	4	5	6	7
(R)	(R)	(R)	(R)	(R)	(R)	(R)
(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)
(G)	(G)	(G)	(G)	(G)	(G)	(G)

PHASE 2 & 6	G	G	G	G	G	R	R	
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	→
PHASE 2 & 5	R	R	←G-/G	←G-/G	G	R	R	
2 & 5 CHANGE	R	R	←Y-/G	←Y-/G	G	R	R	→
PHASE 4	R	R	R	R	R	G	G	
4 CHANGE	R	R	R	R	R	Y	Y	→
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	↕

NOTE: PHASE 5 SHALL OPERATE AS A LAG LEFT TURN.

WIRING DIAGRAM

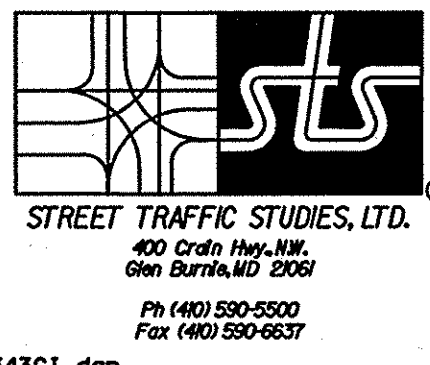


WIRING KEY	
A	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
B	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
C	2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
D	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
E	ALUMINUM SHIELDED
F	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
G	12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED) (TO BE INSTALLED BY LIGHTING CONTRACTOR)
H	3 - 1 CONDUCTOR CABLE (NO. 250 KCMIL)
I	LOOP WIRE (NO. 14 A.W.G.)
J	PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY ALLEGHENY POWER
K	GROUND ROD

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
**MD 27 AND
WOODFIELD ROAD EXTENDED**

GENERAL INFORMATION SHEET

SCALE	NONE	DATE	4-26-07	CONTRACT NO.	2W611M93
DESIGNED BY	JAMES ALLEN JR.	COUNTY	MONTGOMERY		
DRAWN BY	R. CICCHINI	LOGMILE	15002707.40		
CHECKED BY	[Signature]	TMS NO.	F895		
F.A.P. NO.		TOD NO.			
TS NO.	4295	DRAWING NO.	OF	SHEET NO.	150 OF 195



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